

What is claimed is:

- 1 1. A computerized method for authenticating an electronic transaction between a
2 user and a computer, the computer being configured to conduct electronic transactions, the
3 method comprising:
4 receiving a computer-generated transaction identifier from the computer via an
5 electronic data link;
6 receiving a user-spoken transaction identifier and a user-spoken verification
7 identifier transmitted by the user via a voice connection;
8 comparing the user-spoken transaction identifier with the computer transaction
9 identifier;
10 comparing the user-spoken verification identifier with a voice print of the user; and
11 transmitting an authentication message to the computer if the user-spoken transaction
12 identifier matches the computer-generated transaction identifier and if the user-spoken
13 verification identifier matches the voice print.
- 1 2. The method of claim 1, wherein the computer transaction identifier is generated
2 by the computer in response to the electronic transaction conducted between the user and the
3 computer.
- 1 3. The method of claim 1, further comprising the step of providing the user voice
2 print and user payment information prior to the electronic transaction.

4. The method of claim 3, wherein the user voice print is provided by the user by providing a spoken telephone number to a voice recognition unit.

5. The method of claim 3, wherein the user voice print is provided by the user by providing a spoken user name to a voice recognition unit.

6. The method of claim 3, wherein the user payment information includes a credit card number and an associated credit card expiration date.

7. The method of claim 1, wherein the step of receiving a user-spoken transaction identifier and the step of receiving a user-spoken verification identifier must be performed within a predetermined time from completing the electronic transaction.

8. The method of claim 7, wherein the predetermined time is about five minutes.

9. The method of claim 1, wherein the electronic data link includes the Internet.

10. The method of claim 1, wherein the electronic data link includes a private network.

11. The method of claim 1, wherein the computer is a system component of a financial institution.

12. The method of claim 11, wherein the financial institution is a bank.

13. The method of claim 12, wherein the user conducts the electronic transaction using an ATM machine.

14. The method of claim 12, wherein the user conducts the electronic transaction by communicating with a bank teller.

15. The method of claim 1, wherein the user conducts the electronic transaction using a personal computer.

16. The method of claim 1, wherein the user conducts the electronic transaction using a wireless device.

17. The method of claim 1, wherein the user conducts the electronic transaction using a hand-held device.

18. The method of claim 1, wherein the computer is a system component of an Internet web-site.

19. The method of claim 18, further comprising:
receiving at least one user-spoken command for controlling web-site navigation, the
at least one user-spoken command being transmitted by the user via a telephonic voice

4 connection;
5 converting the at least one user-spoken command into at least one computer-readable
6 command;
7 transmitting the at least one computer readable command to the computer; and
8 executing the at least one computer readable command, using the computer, whereby
9 the user controls web-site navigation of the Internet web-site by voice command via the
10 telephonic voice connection.

1 20. The method of claim 19, wherein the user is prompted by a voice menu system
2 to respond to voice menu options when transmitting the at least one user-spoken command.

1 21. The method of claim 1, further comprising:
2 providing at least one voice menu option to the user;
3 processing at least one user-spoken response to the at least one voice menu option, whereby
4 the at least one user-spoken response is transformed into at least one computer-readable
5 response;
6 transmitting the at least one computer-readable response to the computer; and
7 executing the at least one computer response, using the computer, whereby the user
8 controls the computer by voice command.

1 22. The method of claim 1, wherein the user-spoken transaction identifier and the
2 user-spoken verification identifier are transmitted by a telephonic voice connection.

1 23. The method of claim 1, wherein the electronic transaction includes an on-line
2 purchase of goods or services.

1 24. The method of claim 1, wherein the electronic transaction includes a banking
2 transaction.

1 25. The method of claim 1, wherein the electronic transaction includes downloading
2 music files.

1 26. The method of claim 1, wherein the electronic transaction includes a
2 point-of-sale transaction.

1 27. A system for authenticating an electronic transaction between a first
2 user-operated device and a computer, the computer being configured to conduct electronic
3 transactions, the system comprising:

4 a voice browser configured to receive and process user-spoken information when
5 coupled to a second user-operated device, the voice browser being programmed to compare
6 a user-spoken transaction identifier to a computer-generated transaction identifier, and to
7 compare a user-spoken verification identifier to a voice print of the user; and

8 a session correlator coupled to the voice browser, the session correlator being
9 configured to transmit an authentication message to the computer if the user-spoken
10 transaction identifier matches the computer transaction identifier, and if the user-spoken
11 verification identifier matches the voice print.

1 28. The system of claim 27, wherein the voice browser further comprises:

2 a voice recognition unit coupled to the second user-operated device via a network,
3 the voice recognition unit being configured to recognize audible tones transmitted over the
4 network; and

5 a database coupled to the voice recognition unit, the database being configured to
6 store the voice print of the user and payment information associated with the voice print.

1 29. The system of claim 28, wherein the voice recognition unit recognizes both
2 spoken input and DTMF input.

1 30. The system of claim 28, further comprising a telephony interface unit coupled to
2 the voice recognition unit, the telephony interface unit being configured to convert signals
3 carried by the network into signals having a correct format and amplitude.

1 31. The system of claim 27, wherein the voice browser further comprises a voice
2 menu system, the voice menu system comprising:

3 a voice menu option library having stored therein at least one voice menu option;

4 a user interface transmitter configured to transmit the at least one voice menu option
5 to the user, the user interface transmitter including a synthesized speech unit for generating
6 the at least one voice menu option, and a digitized audio unit for generating user-audible
7 signaling tones; and

8 a user interface receiver configured to recognize a plurality of user-spoken menu

9 selections provided by the user in response to the at least one voice menu option.

1 32. The system of claim 27, wherein the voice browser includes a digital signal
2 processor.

1 33. The system of claim 27, wherein the voice browser includes at least one software
2 module resident in an Internet backbone.

1 34. The system of claim 27, wherein the voice browser includes at least one software
2 module resident in a telecommunications switch.

1 35. The system of claim 27, wherein the voice browser includes at least one software
2 module resident in a computer disposed in a network data center.

1 36. The system of claim 27, wherein the voice browser includes at least one software
2 module resident in a computer disposed in a customer premise equipment.

1 37. The system of claim 27, wherein the voice browser includes at least one software
2 module resident in a computer disposed in an intranet.

1 38. The system of claim 27, wherein the session correlator includes at least one
2 software module resident in an Internet backbone.

39. The system of claim 27, wherein the session correlator includes at least one software module resident in a telecommunications switch.

40. The system of claim 27, wherein the session correlator includes at least one software module resident in a computer disposed in a network data center.

41. The system of claim 27, wherein the session correlator includes at least one software module resident in a computer disposed in a customer premise equipment.

42. The system of claim 27, wherein the session correlator includes at least one software module resident in a computer disposed in an intranet.

43. The system of claim 27, wherein the second user-operated device includes a microphone.

44. The system of claim 27, wherein the second user-operated device includes a telephone set.

45. The system of claim 44, wherein the telephone set is a wireless telephone.

46. The system of claim 45, wherein the wireless telephone is configured to use a wireless access protocol.

1 47. The system of claim 27, wherein the computer transaction identifier is generated
2 by the computer in response to the electronic transaction conducted between the user and the
3 computer.

1 48. The system of claim 27, wherein the electronic data link includes the Internet.

1 49. The system of claim 27, wherein the electronic data link includes a private
2 network.

1 50. The system of claim 27, wherein the computer is a system component of a
2 financial institution.

1 51. The system of claim 50, wherein the financial institution is a bank.

1 52. The system of claim 51, wherein the first user-operated device includes an ATM
2 machine.

1 53. The system of claim 51, wherein the user conducts the electronic transaction by
2 communicating with a bank teller.

1 54. The system of claim 27, wherein the first user-operated device includes a
2 personal computer.

1 55. The system of claim 27, wherein the first user-operated device includes a
2 wireless device.

3
4 56. The system of claim 27, wherein the first user-operated device includes a
5 hand-held device.

1 57. The system of claim 27, wherein the computer is a system component of an
2 Internet web-site.

3 58. The system of claim 27, further comprising:
4 a user authentication input unit coupled to the first user-operated device and the
5 session correlator, the user authentication unit being configured to accept a user name and a
6 user password from the user;
7 a database coupled to the user authentication input unit, the database being
8 configured to store an authentic user name and an authentic user password; and
9 a user authenticator coupled to the user authentication input unit, the database, and
10 the session correlator, the user authenticator being programmed to compare the user name to
11 the authentic user name, and to compare the user password to the authentic user password,
12 whereby the user authenticator provides the session correlator with a transaction denial
message if the user name does not match the authentic user name, or the user password does
not match the authentic user password.

1 59. The system of claim 27, wherein the electronic transaction includes an on-line
2 purchase of goods or services.

1 60. The system of claim 27, wherein the electronic transaction includes a banking
2 transaction.

1 61. The system of claim 27, wherein the electronic transaction includes downloading
2 music files.

1 62. The system of claim 27, wherein the electronic transaction includes a
2 point-of-sale transaction.

1 63. A computerized voice verification method for authenticating an electronic
2 transaction between a user and a computer, the computer being configured to conduct
3 electronic transactions, the method comprising:

4 enrolling the user in a voice verification system, whereby the user provides the
5 system with a user voice print;

6 performing the electronic transaction;

7 receiving a transaction identifier from the computer via an electronic data link in
8 response to performing the electronic transaction;

9 receiving a user-spoken transaction identifier and a user-spoken verification
10 identifier transmitted by the user via a voice connection;

11 comparing the user-spoken transaction identifier with the computer transaction

12 identifier and the user-spoken verification identifier with a voice print of the user; and
13 transmitting an authentication message to the computer if the user-spoken transaction
14 identifier matches the computer transaction identifier, and if the user-spoken verification
15 identifier matches the voice print.

1 64. The method of claim 63, wherein a transaction denied message is transmitted to
2 the computer if the user-spoken transaction identifier does not match the computer
3 transaction identifier, or if the user-spoken verification identifier does not match the voice
4 print.

1 65. A computerized method for controlling web-site navigation, the method
2 comprising:
3 providing an authentication system including a voice recognition unit and a session
4 correlator, the voice recognition unit having access to a pre-registered voice print of the user,
5 whereby the authentication system is coupled to a user computer and a web-site during the
6 computerized method;
7 conducting a transaction between the user computer and the web-site, the web-site
8 transmitting a transaction identifier to the user computer and the authentication system in
9 response to the transaction;
10 receiving a user-spoken transaction identifier and a user-spoken verification
11 identifier via a telephonic connection, the authentication system being programmed to
12 compare the user-spoken transaction identifier to the transaction identifier and the
13 user-spoken verification identifier to the pre-registered voice print;
14 transmitting an authentication message to the web-site if the user-spoken transaction
15 identifier matches the transaction identifier and if the user-spoken verification identifier

16 matches the voice print;
17 receiving at least one user-spoken command for controlling web-site navigation, the
18 authentication system being programmed to convert the at least one user-spoken command
19 into at least one computer-readable command; and
20 transmitting the at least one computer readable command to the web-site, the at least
21 one computer readable command being executed by the web-site, whereby the user controls
22 web-site navigation of the web-site by the at least one user-spoken command.

1 66. The method of claim 65, wherein the at least one user-spoken command includes
2 a plurality of user-spoken commands.

1 67. The method of claim 65, wherein the plurality of user-spoken commands are
2 transmitted by the user in response to a plurality of voice menu options provided by the
3 authentication unit.

1 68. The method of claim 65, wherein a web-navigation is denied message is
2 transmitted to the computer if the user-spoken transaction identifier does not match the
3 computer transaction identifier, or if the user-spoken verification identifier does not match
4 the voice print.